

From: psgrain!ee.und.ac.za!ucthpx!sunvax!8910782@uunet.uu.net
Subject: 1MHz AM radio transmitter
To: info-hams@ucsd.edu

Hi

I would like to start a radio station at University. I am from South Africa, and down here we don't have as much radio stations as in the USA for instance. For example the entire AM band from 800kHz to 1.4MHz is available for broadcast. I would therefore like to build a 1Mhz AM transmitter with a 2km radius, so that I could reach the entire University.

What I am looking for is a circuit which can accomplish this. Is there anybody who can help me. Please be specific about the details of the circuit and don't make it too complicated, because I am not that good with electronics and you don't get strange components in South Africa. The best way for me would be to receive a ORCAD.SCH file, or such like.

Thanks a lot

Francois

Radio amateurs do it through the air.

Date: Thu, 29 Apr 1993 12:54:43 GMT
From: dog.ee.lbl.gov!overload.lbl.gov!agate!howland.reston.ans.net!
zaphod.mps.ohio-state.edu!news.acns.nwu.edu!casbah.acns.nwu.edu!
rdewan@network.UCSD.EDU
Subject: Another AM Question
To: info-hams@ucsd.edu

In article <C67J8s.Duw@icon.rose.hp.com> lkraft@core.rose.hp.com (Lyle Kraft) writes:

> Hello gang,
>
> A colleague and I were pondering this scenario:
>
> Suppose you generate a single carrier signal with no modulation, and
> feed this up to your x-element beam. So far, you are radiating a
> signal that has zero bandwidth in some fixed direction. OK, now
> say you rotate your antenna at a rate of, say, 1000 revolutions per
> second. To a distant observer, will this signal now appear to have
> sidebands spaced 1 KHz away from the carrier since he now only sees
> a carrier that "bursts" at a 1KHz rate? Remember, we are still only
> generating a single, unmodulated carrier. Are the "sidebands" a
> figment of the receiver?

>
> Just curious....
>

Or how about an example from astronomy. A star is rapidly receding from us and so the spectrum shifts. Is the red-shift a figment of earth or the star?

I guess it's all relative. :)

Rajiv
aa9ch

Date: Thu, 29 Apr 1993 13:06:26 GMT
From: news.acns.nwu.edu!casbah.acns.nwu.edu!rdewan@network.UCSD.EDU
Subject: Another AM Question
To: info-hams@ucsd.edu

In article <C67J8s.Duw@icon.rose.hp.com> lkraft@core.rose.hp.com (Lyle Kraft) writes:

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>
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> Suppose you generate a single carrier signal with no modulation, and
> feed this up to your x-element beam. So far, you are radiating a
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> say you rotate your antenna at a rate of, say, 1000 revolutions per
> second. To a distant observer, will this signal now appear to have
> sidebands spaced 1 KHz away from the carrier since he now only sees
> a carrier that "bursts" at a 1KHz rate? Remember, we are still only
> generating a single, unmodulated carrier. Are the "sidebands" a
> figment of the receiver?
>
> Just curious....
>

Consider this from the receiver's perspective. Whether you modulate the energy being *received* by
* by rapidly turning the transmitter on and off
* or by rotating the transmitted beam of energy in and out of receiving antenna's range,
the effect is the same.

In fact, the Doppler directions finding units use this principle and achieve it by rapidly rotating (electronically) antennas.

Rajiv
aa9ch

Date: Thu, 29 Apr 1993 15:30:01 GMT
From: dog.ee.lbl.gov!overload.lbl.gov!agate!howland.reston.ans.net!usc!sdd.hp.com!
hpscit.sc.hp.com!icon.rose.hp.com!lkraft@network.UCSD.EDU
Subject: Another AM Question
To: info-hams@ucsd.edu

Rajiv Dewan (rdewan@casbah.acns.nwu.edu) wrote:

: >
: >Consider this from the receiver's perspective. Whether you modulate
: >the energy being *received* by
: > * by rapidly turning the transmitter on and off
: > * or by rotating the transmitted beam of energy in and out of receiving
: > antenna's range,
: >the effect is the same.
: >
: >In fact, the Doppler directions finding units use this principle and achieve
: >it by rapidly rotating (electronically) antennas.
: >
: >
: >Rajiv
: >aa9ch
: >

Uh, no. This is different. The Doppler DF acts as an antenna which is located on the outer edge of a rotating wheel. During half the rotation the antenna APPROACHES the source and during the other half it RECEDES from the source, and this is what creates the Doppler effect. In our discussion, the antenna is located at the axis of the "wheel" and its distance does not change over time, just the direction at which it is pointing.

73,

Lyle
AA6LK

Date: Wed, 28 Apr 93 23:10:09 -0500 (CDT)
From: speedway.net!hatter@uunet.uu.net
Subject: Another AM Question

To: info-hams@ucsd.edu

```
> Alan Bloom (alanb@sr.hp.com) wrote:
> : >Lyle Kraft (lkraft@core.rose.hp.com) wrote:
> : >:   Hello gang,
> : >
> : >:   A colleague and I were pondering this scenario:
> : >
> : >:   Suppose you generate a single carrier signal with no modulation,
and
> : >:   feed this up to your x-element beam. So far, you are radiating a
> : >:   signal that has zero bandwidth in some fixed direction. OK, now
> : >:   say you rotate your antenna at a rate of, say, 1000 revolutions
per
> : >:   second. To a distant observer, will this signal now appear to
have
> : >:   sidebands spaced 1 KHz away from the carrier since he now only
sees
> : >:   a carrier that "bursts" at a 1KHz rate?
> : >
> : >Yes
```

No, what he sees is (assuming antenna is far away, i.e. a point source) just a steady signal. It is not really "modulated". Imagine what a simple diode detector receiver would get --- DC, a steady signal.!!

```
> : >: Remember, we are still only
> : >:   generating a single, unmodulated carrier. Are the "sidebands" a
> : >:   figment of the receiver?
```

There are no sidebands -- see below.

```
> : >No, they are really there. It doesn't matter how you modulate the
carrier,
```

Yes, it does matter. For sidebands to exist, one must non-linearly modulate a carrier. The math works out to the vector multiplication of two signals. Happens every day in every AM transmitter.

```
> : >you can't have modulation without generating sidebands. You'd get
the
```

But you don't really have "modulation". All you have is the addition of a signal (1KHz) to another (carrier) by physical means (again assuming point sources and no near-field effects of phase or frequency change) rather

than
electrical means.

> : >same effect by transmitting an unmodulated carrier and quickly
switching
> : >the antenna in and out at a 1 kHz rate. (For as long as the
transmitter
> : >stayed alive!)

Yep, still no sidebands.

> : >
> : >AL N1AL
> : >
>
> As far as who sees these sidebands, let me modify the scenario. Say
> you now have an airborne receiver that circles the transmitting
> antenna in sync with the beam. Does the flying receiver see these
> sidebands (assuming the receiver sees no change in amplitude during
> the trip around)?

Again, there are no sidebands. Same scenario.

> I don't believe so, but a fixed observer will
> see the modulation.

The fixed observer will again just see a fixed signal (assuming he was
smart enough to filter out the carrier as all detectors do).

> I'm just curious as to whether it's something
> that is created as part of the detection process, or do these
> sidebands accompany the carrier to the far regions of space (in
> a huge rotating disk pattern).

Nothing is created in detection. A true AM signal (or DSB/SSB) will
depend
on having two discrete signals to mix together (multiply) to recreate
the intelligence.

An therein lies the answer. What intelligence is really communicated by
switched
on/off carrier (or a varying carrier as in your example)? The answer is
NONE...
unless an additional signal is introduced (BFO) to recreate the
intelligence.

Remember the whole purpose of modulation is to carry intelligence. An
there

is some law (forgive me, 25 years have passed since my last physics class) that says that intelligence REQUIRES bandwidth ... the more intelligence (higher baud rate, wide frequency transmission, color TV) the wider the bandwidth. Zero bandwidth = zero intelligence; in other words you may be changing what someone "sees" by rotating your antenna, but you didn't pass along any useful info.

If you want to "see" your 1KHz signal you need throw in a local unmodulated carrier of _exactly_ the same frequency. .. from the ashes, RADIO.

>
> L

For the small errors in this response, forgive me ... the answer was obvious,
but the explanation was left on an exam paper many years ago.

--- 73 de Henry

n5sh1@n5sh1.ampr.org [44.76.1.132]	henrym@well.sf.ca.us
n5sh1@n5l1jf.#aus.tx.us.noam	mhatter@hatter.speedway.net

Date: Thu, 29 Apr 93 04:00:35 GMT
From: swrinde!zaphod.mps.ohio-state.edu!mstar!n8emr!bulletin@network.UCSD.EDU
Subject: ARRL Bulletin 48 ARLB048
To: info-hams@ucsd.edu

=====
| Automatic relayed from packet radio via |
| N8EMR's Ham BBS, 614-895-2553 |
=====

ZCZC AG89
QST de W1AW
ARRL Bulletin 48 ARLB048
>From ARRL Headquarters Newington CT
April 27, 1993
Relayed by KB8NW/OBS & BARF-80 BBS
To all radio amateurs

SB QST ARL ARLB048
ARRLB048 Correction to ARLB047

In reference to ARLB047, the petition by William G. Welsh, W6DDB,
was for the entire 30 meter band and not a portion thereof.
NNNN

Date: 29 Apr 93 15:19:04 GMT
From: mvb.saic.com!unogate!news.service.uci.edu!usc!howland.reston.ans.net!gatech!
prism!gt0701b@network.UCSD.EDU
Subject: FCC Rules on Transmission
To: info-hams@ucsd.edu

A ham buddy of mine told me that if operating on simplex as
long as you are transmitting under 1W that anyone, licensed or not,
can talk on these frequencies and even if you are licensed, do not
have to identify.

Does anybody know if this is true and what is the rule?

73

Jim
KD4ZYS

Date: 29 Apr 93 16:16:22 GMT
From: news.tek.com!tekgen!brucec@uunet.uu.net
Subject: Hams going to CICC ??
To: info-hams@ucsd.edu

Any hams going to the Custom Integrated Circuit Conference
(CICC) in San Diego, CA May 9 to May 13 ?

If so, I wonder if there is a 2 mtr repeater in San Diego
we could get together on to ragchew?

I'll be there - how about you ??

Bruce Cheney
NI7M

Date: 29 Apr 93 13:57:19 GMT
From: news-mail-gateway@ucsd.edu
Subject: Helical filters for HT's
To: info-hams@ucsd.edu

>Does anyone have any advice or recommendations about filters/amps/etc
>that would improve the selectivity of my HT?

David:

The Ramsey 2 meter power amp has a note in it that says you can put a helical filter in the receive preamp circuit. They reference Digi-Key as a source for the TOKO helical filters. (about \$25) According to their notes, you need to have a TR switch because you DO NOT want to transmit through a helical filter. I am not sure how it is connected. Maybe someone else has some first hand experience

I have been using the Ramsey amp to boost the power for my HT. It gives about 25 watts out for 2.5 watts in and 5 watts out for 250 mw in.

I believe Digi-Key's number is 1-800-Dig-iKey.

Some of the more expensive 2m amps might have that feature built in. I'm not sure. I know most of them have receive pre amps.

73

Rick
KB5VDT

Rick_A._Martin.Oklahoma_City@Xerox.COM

Date: Wed, 28 Apr 1993 15:40:26 -0600
From: usc!howland.reston.ans.net!darwin.sura.net!bogus.sura.net!news-feed-1.peachnet.edu!umn.edu!kksys.com!edgar!tdkt!FredGate@network.UCSD.EDU
Subject: Icom Ic229h - questions
To: info-hams@ucsd.edu

Hello Tim.

-=> On 04-27-93 13:44, Wright_t wrote <=-

Wr> I have ordered an Icom IC229H 2-meter mobile transceiver. Does anyone
Wr> have any opinions or experience with this radio that they would like to
Wr> share ? Are there any mods ? Does anyone have them ? How do I get them
Wr> ? Please Email or post to this front; whichever way you see fit.

If you have packet (or know someone who does), in the "to" line, do the following:

SP REQFIL @ KJ6FY.#NOCAL.CA.USA

when asked for the subject title, enter: DD IC229H

IMPORTANT: MAKE SURE YOU SEND THE MESSAGE USING "SP" AND NOT "SB".
ALSO BE SURE THE MESSAGE IS TO "REQFIL".

Hope this helps.

73 de Vern, KB0KWB
packet address:
KB0KWB @ WBOGDB.#STP.MN.USA.NOAM

* Origin: HAM>link< RBBS 612/HAM-0000 Saint Paul, MN [K0TG] (1:282/100)

Date: 29 Apr 93 12:36:49 GMT
From: news-mail-gateway@ucsd.edu
Subject: Info-Hams Digest V93 #513
To: info-hams@ucsd.edu

"Suppose you generate a single carrier signal with no modulation and feed this up to your x-element beam. So far, you are radiating a signal that has zero bandwidth in some fixed direction. OK, now say you rotate your antenna at a rate of, say, 1000 revolutions per second. To a distant observer, will this signal now appear to have sidebands spaced 1 KHz away from the carrier....."

It certainly will. Radars that use Doppler discrimination see this effect as helicopter rotor modulation, propeller modulation, etc.

Say, I would like to see that x-element beam rotating at 1000 rpm - from a distance.

73, Jim w3cpb

Date: 29 Apr 93 13:02:06 GMT
From: news-mail-gateway@ucsd.edu
Subject: Need address for N1NLK
To: info-hams@ucsd.edu

Does anyone have a very RECENT database with N1NLK in it? He isn't in Marvin or the 1993 Callbook. I need his address in Massachusetts.

BTW, does anyone know when Marvin will be updated? It seems like its been quite a while.

steve - W3GRG
mosier@iris.uncg.edu dit dit

Date: Thu, 29 Apr 1993 09:53:49 GMT
From: pa.dec.com!nntpd2.cxo.dec.com!nuts2u.enet.dec.com!little@decwrl.dec.com
Subject: no-code defense
To: info-hams@ucsd.edu

"system@garlic.sbs.com (Anthony S. Pelliccio)" writes:

>But... you must have passed at least 1A to get on CW on any portions of
>the HF bands. Simple as that. I will say one thing, I enjoy the bottom
>25 kc's of the bands because it's not as congested. If we start fucking
>with the code requirements, it's gonna be a free-for-all down there and
>that's not something I want, having worked to gain an Extra class
>ticket.

Naw, I'm just a CBer that's bootlegging. ;-) Nice thing about many call
signs, you really can't tell what class the operator is for sure. Maybe
the free-for-all down there will drive the jerks like you off the bands.
And from your posts here it seems like the only thing you've worked at is
being arrogant and obnoxious. If you represent the average operator on the
bottom 25 kHz of the bands, then maybe that's why they call it the bottom
of the band.

>Whoops... forgot:

>
>....- --- .- ... -... . -.------ -. .-. -...- .- .
>

>And btw, if you happen to be a no-code and are offended by my
>attitude... well there are two words for you....

>
>....- ...- ...- ...- --- ...- ...-

Hahahah, that's great. Was that American Morse Code for 3UJK 5QQ or did you
invent a new character in International Morse Code. You must have some
great QSOs on the bottom 25 kc (how quaint) of the bands. Or perhaps you
copied 20 WPM for your 1C but you've since forgotten the characters?

And as always 73,
Todd
N9MWB

Date: Thu, 29 Apr 93 10:16:53 GMT
From: elroy.jpl.nasa.gov!usc!howland.reston.ans.net!darwin.sura.net!
bogus.sura.net!news-feed-1.peachnet.edu!umn.edu!kksys.com!edgar!brainiac!moron!
chrisc@decwrl.dec.com
Subject: no-code defense
To: info-hams@ucsd.edu

ap_v132@king.ac.uk (Niall Pagdin) writes:

>
> What exactly do you mean by 'entry class licencees'? I live in the UK and am
> just about to take my RAE (next week in fact) and I am not aware of any
> restrictions as to who can use the 144-146MHz band. Plus, I would just like to

I believe he is referring to the UHF _novice_ license, not the traditional
(well, since the Seventies anyway) "entry class" (sic) Class B license, which,
as you infer, gives an amateur full privileges to all bands above 30MHz.

Chris

--

73 Chris Cox W0/G4JEC
chrisc@biggus.g4jec.tcman.ampr.org chrisc@biggus.moron.vware.mn.org
Eleventh Hour Contest Group - North American Chapter; Minneapolis, MN
Twin Cities Metro Area Network node (biggus.g4jec.tcman.ampr.org)

Date: 29 Apr 93 15:04:23 GMT
From: sun-barr!news2me.EBay.Sun.COM!cronkite.Central.Sun.COM!texsun!
exucom.exu.ericsson.se!s12b04!exualan@decwrl.dec.com
Subject: Possible to parallel x-formers??
To: info-hams@ucsd.edu

In article 1rnnsmINNd59@darkstar.UCSC.EDU, haynes@cats.ucsc.edu (Jim Haynes)
writes:

(warnings about circulating currents deleted)

>If you do the paralleling after the rectifiers they you get rid of
>the circulating currents at no load; but you still have the problem
>of getting them to share the load equally.

Well, 25 amp bridge rectifiers are cheap so no problem with that suggestion.

Speculating now -

Is it reasonable to assume that the internal resistance of the secondary
wire will at least limit the current of any single transformer of the bunch
to within its design limits? (Using an additional assumption that the
secondary voltage and current ratings are within, lets say, 15% of each
other.)

Thanks,
Alan, KE5JL

Date: Thu, 29 Apr 1993 16:29:46 GMT
From: mvb.saic.com!unogate!news.service.uci.edu!usc!howland.reston.ans.net!
ux1.cso.uiuc.edu!newsrelay.iastate.edu!news.iastate.edu!song@network.UCSD.EDU
Subject: Wanted: LogiKey K-1 Keyer ASAP(Used or new)
To: info-hams@ucsd.edu

Hi, anybody has LogiKey K-1 Keyer? I need it ASAP.
Please e-mail me.
Thanks.

Chang Song, HL5BGB

Date: Thu, 29 Apr 1993 14:21:21 GMT
From: telesoft!garym@uunet.uu.net
To: info-hams@ucsd.edu

References <1993Apr27.143522.6326@alsys.com>, <1993Apr27.232644.14424@alsys.com>,
<1993Apr28.162235.6011@alsys.com>
Subject : STS-55 Element Set (119.30)

This is the latest STS-55 element set as of orbit 44. The elements are
based on NORAD tracking data and were provided by Lou McFadin.
--GaryM

STS-55
1 22640U 93 27 A 93119.30346888 +.00041555 00000-0 12437-3 0 90
2 22640 28.4657 248.9700 0008507 261.6404 98.3243 15.90737307 440

Satellite: STS-55

Catalog number: 22640

Epoch time: 93119.30346888 (29 APR 93 07:16:59.71 UTC)

Element set: GSFC-009

Inclination: 28.4657 deg

RA of node: 248.9700 deg Space Shuttle Flight STS-55

Eccentricity: 0.0008507 Keplerian Elements

Arg of perigee: 261.6404 deg

Mean anomaly: 98.3243 deg

Mean motion: 15.90737307 rev/day Semi-major Axis: 6678.3507 Km

Decay rate: 0.42E-03 rev/day*2 Apogee Alt: 305.64 Km

Epoch rev: 44 Perigee Alt: 294.28 Km

NOTE - This element set is based on NORAD element set # 009.
The spacecraft has been propagated to the next ascending
node, and the orbit number has been adjusted to bring it
into agreement with the NASA numbering convention.

R.A. Parise, Goddard Space Flight Center

G.L.CARMAN

--

Gary Morris KK6YB Internet: elements-request@alsys.com
San Diego, CA, USA Phone: +1 619-457-2700
(for Shuttle Elements subscription info, email: listserv@alsys.com)

Date: Thu, 29 Apr 1993 15:16:07 GMT
From: dog.ee.lbl.gov!overload.lbl.gov!agate!howland.reston.ans.net!
darwin.sura.net!sgiblab!spies!wicat!keithm@network.UCSD.EDU
To: info-hams@ucsd.edu

References <BAT.93Apr20084203@gdstech.GRUMMAN.COM>,
<1993Apr26.185220.8665@mixcom.mixcom.com>,
<930428.004719.2p2.rusnews.w165w@garlic.sbs.com>
Subject : Re: Fast connect/disconnect (in/out) mobile rigs?

mei.mon <mei.mon@mixcom.mixcom.com> writes:

> I agree. I'm beating the he!! out of my Alinco DJ580's connector.
>
> Unfortunately, I do not (yet) live in the affluent low crime rate suburbs.
> So theft is a concern of mine. Which is why I started with an HT.
>
> Are there any quick connect/disconnect mobile rigs (2 meter or dual band)
> available? I'm thinking of something where the entire unit (not just the
> front panel) slides in or out of a chassis which automatically makes/breaks
> the power AND antenna connections. I would like to be able to just grab
> hold of the unit and pull. A neat feature would be a similar "back plane"
> in my condo that I could then slide it into when I get home! Any one
> make such a rig?

Several of the local guys use a device called the "Super Slide" This
comes a two pieces. one on which the radio mounts, and one which mounts
to the car. It has a quick release mechanism that makes and breaks power,
external speaker, and antenna connections automatically. You can mount
one in your car and one in the house. They are available from major ham
radio chains (HRO, AES etc...).

--

Keith McQueen, Wicat Systems Inc. , (801)224-6400	My opinions are
Packet: n7hmf @ nv7v.UT.USA.NA	all mine...
Internet: keithm@wicat.com	...so there!

End of Info-Hams Digest V93 #516
